Advanced Vehicle Technology Competitions: Developing and Integrating Future Automotive Technology Today

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ABSTRACT

One of the real benefits of the ongoing series of Advanced Vehicle Technology Competitions has been the integration of all OTT technologies in real-world demonstrations. We have been able to take the best OTT technologies -- advanced propulsion systems, alternative fuels, energy storage, new materials -- and incorporate them in contemporary vehicles. This leverages modest DOE resources with those of many universities and industry sponsors at a rate of 1:3. At the same time we are providing our future automotive engineers with an unmatched educational experience. Thus, these competitions not only push the boundaries of technology development, they seed the industry with engineering talent steeped in OTT technologies, and provide a public vision of the need to embrace a more energy-efficient transportation future.

The competitions in 1996 were unprecedented in their technical achievements. The FutureCar Challenge continued to close the gap between the fuel economy of existing production vehicles and the PNGV goals. The American Tour de Sol illustrated the improved efficiencies and range of electric and hybrid-electric vehicle technology. And the Propane Vehicle Challenge showed how a focused competition could compress ten years of alternative fuel technology development into one.

Yet these impressive achievements are only part of the story. New partnerships were forged with industry sponsors, narrowing the distance between government and industry automotive objectives. Hundreds of the brightest engineering students received an experience that enhanced their practical engineering skills and set them on a path to future success armed with extensive experience with advanced vehicle technologies. Over 100 million taxpayers were exposed to DOE's transportation programs through FutureCar alone, which emphasized a future transportation system that will be, at the same time, more efficient and environmentally-responsible.

Perhaps just as importantly, the student vehicle competitions gave all OTT program staff the chance to see, touch, and experience technologies that they spent years pursuing in simulation and the laboratory. By joining OTT's advanced automotive technologies, the support of our auto industry partners, and the knowledge at our national labs, with the unbridled enthusiasm

of the student participants, these competitions play a valuable role in our efforts to commercialize energy-efficient transportation technologies.